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the thigh-bones being extraordinarily broad in proportion to their length. The trunk gradually tapered forwards to the long and slender head. The fore-limbs had complete clavicles, and the rotatory movements of the fore-arm. All the limbs were provided with long and strong claws. The animal had a long and muscular tongue, and it is probable that its food might have been of a more mixed nature than in the Megatherium. But it was more essentially related to the Sloths than to the Ant-eaters.

In conclusion the author remarks, that as our knowledge of the great Megatherioid animals increases, the definition of their distinctive characters demands more extended comparison of particulars. Hence in each successive attempt at a restoration of these truly remarkable extinct South American quadrupeds, there results a description of details which might seem prolix and uncalled for, but which are necessary for the proper development of the task of reproducing a specimen of an extinct species.

Professor Owen adds, that he is indebted to an allotment from the Government Grant, placed at the disposal of the Royal Society for scientific purposes, for the means of laying before the Society large and admirably executed drawings of the fossil bones described in his paper.

II. "On the Evidence of the existence of the Decennial Inequality in the Solar-diurnal Variations, and its non-existence in the Lunar-diurnal Variation of the Magnetic Declination at Hobartton." By Major-General SABINE, R.A., D.C.L., Treas. and V.P.R.S. Received Nov. 17, 1856.

(Abstract.)

In a communication made to the Royal Society in the last Session, "On the Lunar-diurnal Magnetic Variation at Toronto," the author had stated that he could discover no trace of the lunar influence of the decennial inequality which constitutes so marked a feature in the solar magnetic variations. He has since read, in a memoir communicated to the Imperial Academy of Sciences at Vienna, entitled "On the Influence of the Moon on the horizontal component of the Mag-

netic Force," that M. Kreil is of opinion that the observations of different years at Milan and Prague, when combined, would rather favour the contrary inference, viz. that the decennial inequality exists in the lunar as well as in the solar variations. The author was led therefore to re-examine this question by the aid of the observations of the Declination at the Hobarton Observatory, which he considers to be remarkably well suited for the purpose, as they comprise eight years of consecutive hourly observation with unchanged instruments and a uniform system of observation, and number, exclusive of Sundays, Christmas-days, and Good Fridays, and occasional but very rare omissions, no less than 51,998 observations.

These observations have been examined by the processes already described in the author's communication of last Session, and the results form the subject of the present paper, showing, in the author's belief, decided and systematic evidence of the existence of the diurnal inequality, having its minimum epoch in 1843-1844, and its maximum epoch five years later, in the mean diurnal variation due to the disturbances and in the more regular and ordinary solar-diurnal variation, and the absence of any trace of a similar inequality in the lunar-diurnal variation.

The Society then adjourned over the Christmas holidays, to January 8, 1857.

January 8, 1857.

WILLIAM ROBERT GROVE, Esq., V.P., in the Chair.

The following communications were read :—

- I. "On the Function of the Thyroid Body." By PETER MARTYN, Esq., M.D. Lond., Surgeon R.N. Communicated by Professor HENFREY, F.R.S. Received November 13, 1856.

(Abstract.)

After referring to the form, situation, connexions and internal structure of the thyroid body, its large supply of blood and its capa-